

Sarlink® TPV 3145D

Teknor Apex Company - Thermoplastic Vulcanizate

Friday, October 7, 2016

General Information

Product Description

SARLINK® TPV 3100 series are engineered materials designed primarily for general purpose, automotive and industrial applications requiring a good balance of thermal, mechanical, and physical properties. SARLINK® 3145D, available in NAT and BLK, is a hard hardness, low density, multi-purpose thermoplastic vulcanizate that can be processed by injection molding, blow molding or extrusion for applications such as grips, seals, gaskets, profiles, hose & tubes, bellows, and other articles.

General

| | | | |
|---------------------------|--|--|--|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East • Asia Pacific | • Europe • Latin America | • North America |
| Features | • Chemical Resistant • Fatigue Resistant • General Purpose • Good Adhesion • Good Moldability | • Good Processability • Good Surface Finish • High Hardness • Low Density • Low Specific Gravity | • Medium Heat Resistance • Resilient • Weather Resistant |
| Uses | • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts • Automotive Under the Hood | • Blow Molding Applications • Grommets • Industrial Applications • Plugs | • Profiles • Rubber Replacement • Weatherstripping |
| Agency Ratings | • UL 94 | | |
| RoHS Compliance | • RoHS Compliant | | |
| Automotive Specifications | <ul style="list-style-type: none"> • FORD WSK-M4D712-A1 Color: Black • FORD WSK-M4D712-A1 Color: Natural • GM QK 3533 Type 3 Color: Black • GM QK 3533 Type 3 Color: Black • PSA Peugeot-Citroën B62 0300 version G Color: Black • VOLVO STD 412-0001 Color: Black | | |
| Appearance | • Black | • Natural Color | • Opaque |
| Forms | • Pellets | | |
| Processing Method | • Blow Molding | • Extrusion | • Injection Molding |

ASTM & ISO Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|---------------------------|---------------|-------------------|-------------|
| Specific Gravity | 0.940 | | ASTM D792 |
| Density | 0.940 | g/cm ³ | ISO 1183 |
| Elastomers | Nominal Value | Unit | Test Method |
| Tensile Stress | | | ASTM D412 |
| Across Flow : 100% Strain | 1860 | psi | |
| Flow : 100% Strain | 2250 | psi | |
| Tensile Stress | | | ISO 37 |
| Across Flow : 100% Strain | 1860 | psi | |
| Flow : 100% Strain | 2250 | psi | |
| Tensile Strength | | | ASTM D412 |
| Across Flow : Break | 3260 | psi | |
| Flow : Break | 2810 | psi | |
| Tensile Stress | | | ISO 37 |
| Across Flow : Break | 3260 | psi | |
| Flow : Break | 2810 | psi | |

Revision Date: 7/7/2016

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| Elastomers | Nominal Value | Unit | Test Method |
|--|----------------------|-------------|--------------------|
| Tensile Elongation | | | ASTM D412 |
| Across Flow : Break | 700 | % | |
| Flow : Break | 400 | % | |
| Tensile Elongation | | | ISO 37 |
| Across Flow : Break | 700 | % | |
| Flow : Break | 400 | % | |
| Tear Strength - Across Flow | 750 | lbf/in | ASTM D624 |
| Tear Strength - Across Flow ² | 750 | lbf/in | ISO 34-1 |
| Compression Set | | | ASTM D395 |
| 73°F, 22 hr | 57 | % | |
| 158°F, 22 hr | 70 | % | |
| 257°F, 70 hr | 90 | % | |
| Compression Set | | | ISO 815 |
| 73°F, 22 hr | 57 | % | |
| 158°F, 22 hr | 70 | % | |
| 257°F, 70 hr | 90 | % | |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness | | | ASTM D2240 |
| Shore D, 5 sec, Extruded | 47 | | |
| Shore D, 5 sec, Injection Molded | 50 | | |
| Shore Hardness | | | ISO 868 |
| Shore D, 5 sec, Extruded | 47 | | |
| Shore D, 5 sec, Injection Molded | 50 | | |
| Thermal | Nominal Value | Unit | Test Method |
| RTI Elec | 122 | °F | UL 746 |
| RTI Imp | 122 | °F | UL 746 |
| RTI Str | 122 | °F | UL 746 |
| Aging | Nominal Value | Unit | Test Method |
| Change in Tensile Strength in Air - Across Flow | | | ASTM D573 |
| 275°F, 1000 hr | 2.0 | % | |
| 100% Strain, 275°F, 1000 hr | 16 | % | |
| 302°F, 168 hr | -5.0 | % | |
| 100% Strain, 302°F, 168 hr | 8.0 | % | |
| Change in Tensile Strength in Air - Across Flow | | | ISO 188 |
| 275°F, 1000 hr | 2.0 | % | |
| 100% Strain 275°F, 1000 hr | 16 | % | |
| 302°F, 168 hr | -5.0 | % | |
| 100% Strain 302°F, 168 hr | 8.0 | % | |
| Change in Ultimate Elongation in Air - Across Flow | | | ASTM D573 |
| 275°F, 1000 hr | -11 | % | |
| 302°F, 168 hr | -11 | % | |
| Change in Tensile Strain at Break in Air - Across Flow | | | ISO 188 |
| 275°F, 1000 hr | -11 | % | |
| 302°F, 168 hr | -11 | % | |
| Change in Durometer Hardness in Air | | | ASTM D573 |
| Shore D, 275°F, 1000 hr | 1.0 | | |
| Shore D, 302°F, 168 hr | 2.0 | | |

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| Aging | Nominal Value | Unit | Test Method |
|--|---------------|------|-------------|
| Change in Shore Hardness in Air | | | ISO 188 |
| Shore D, 275°F, 1000 hr | 1.0 | | |
| Shore D, 302°F, 168 hr | 2.0 | | |
| Change in Volume (257°F, 70 hr, in IRM 903 Oil) | 52 | % | ASTM D471 |
| Change in Volume (257°F, 70 hr, in IRM 903 Oil) | 52 | % | ISO 1817 |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating (0.06 in, Natural and Black Colors) | HB | | UL 94 |
| Additional Information | Nominal Value | Unit | Test Method |
| Apparent Shear Viscosity - Capillary, @ 206/s | | | |
| 392°F | 310 | Pa·s | ISO 11443 |
| 392°F | 310 | Pa·s | ASTM D3835 |

Legal Statement

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Processing Information

| Injection | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature | 180 | °F |
| Drying Time | 3.0 | hr |
| Rear Temperature | 356 to 419 | °F |
| Middle Temperature | 356 to 419 | °F |
| Front Temperature | 356 to 419 | °F |
| Nozzle Temperature | 369 to 428 | °F |
| Processing (Melt) Temp | 365 to 428 | °F |
| Mold Temperature | 50 to 131 | °F |
| Back Pressure | 14.5 to 145 | psi |
| Screw Speed | 100 to 200 | rpm |
| Extrusion | Nominal Value | Unit |
| Drying Temperature | 180 | °F |
| Drying Time | 3.0 | hr |
| Cylinder Zone 1 Temp. | 356 to 392 | °F |
| Cylinder Zone 2 Temp. | 356 to 401 | °F |
| Cylinder Zone 3 Temp. | 369 to 410 | °F |
| Cylinder Zone 4 Temp. | 369 to 410 | °F |
| Melt Temperature | 383 to 419 | °F |
| Die Temperature | 383 to 419 | °F |
| Take-Off Roll | 68 to 122 | °F |

Extrusion Notes

Screen Pack: 20 to 60 mesh
Screw: general purpose
Compression Ratio: 3:1

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Notes

¹ Typical properties: these are not to be construed as specifications.

² Method Ba, Angle (Unnicked)

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